



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|--------------------------|------------------|
| 10/791,190 | 03/02/2004 | Frank L. Hall | 4718.3US (00-0316.03/US) | 1971 |
| 24247 | 7590 | 09/26/2007 | EXAMINER | |
| TRASK BRITT P.O. BOX 2550 SALT LAKE CITY, UT 84110 | | | HEINRICH, SAMUEL M | |
| | | ART UNIT | PAPER NUMBER | |
| | | 1725 | | |
| | | NOTIFICATION DATE | DELIVERY MODE | |
| | | 09/26/2007 | ELECTRONIC | |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

USPTOMail@traskbritt.com

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/791,190 | HALL, FRANK L. | |
| | Examiner | Art Unit | |
| | Samuel M. Heinrich | 1725 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 10 July 2007.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-21 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 02 March 2004 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)
 Paper No(s)/Mail Date 2/22/07;3/5/07;7/10/07. *4 sheets*
- 4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____.
- 5) Notice of Informal Patent Application
- 6) Other: _____.

DETAILED ACTION***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art (AAPA) in view of USPN 5,352,107 to Oh in view of USPN 6,221,690 to Taniguchi et al in view of USPN 4,586,822 to Tanimoto and in view of USPN 5,460,284 to Foltz et al. AAPA describes (e.g., Specification pages 2-6) well known resist removal processes which do not damage the substrate, and this inherently includes some inspection for possible damage. Oh describes the old and well known use of an automold system for molding semiconductor packages. Taniguchi et al describe (Abstract) "removing the unnecessary solder resist under irradiation of a laser" in the production of a semiconductor package. Taniguchi et al describe (column 6, last paragraph) removal of resist and subsequently "encapsulating resin 9 was injected into the mold". Tanimoto describe use of a laser for detecting surface irregularities. Folzt et al describe (column 9, lines 32-38) well known laser beam ablation apparatus comprising laser beam cooling.

An automold apparatus including a laser capable of resist removal and inspection would have been obvious at the time applicant's invention was made to a person having ordinary skill in the art because the use of the laser in the molding process is well

known and the close association of tooling provides rapid production. Nd:Yag and excimer lasers are disclosed by Taniguchi et al. Apparatus cooling would have been obvious at the time applicant's invention was made to a person having ordinary skill in the art in order to provide a better regulated operation of the apparatus. Note, the intended use of the apparatus does not impart patentability to the apparatus claims.

Claims 16-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art (AAPA) in view of USPN 5,352,107 to Oh in view of USPN 6,221,690 to Taniguchi et al in view of USPN 4,586,822 to Tanimoto and in view of USPN 5,460,284 to Foltz et al as applied to claims 1-15 above and further in view of USPN 6,618,402 to Charbonnier et al. Charbonnier et al describe (column 5, lines 35-41) use of a split beam for ablation of resist. The use thereof would have been obvious at the time applicant's invention was made to a person having ordinary skill in the art in order to speed production.

Claims 1-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art (AAPA) in view of JP404113663A in view of USPN 5,352,107 to Oh in view of USPN 4,586,822 to Tanimoto and in view of USPN 5,460,284 to Foltz et al. AAPA describes (e.g., Specification pages 2-6) well known resist removal processes which do not damage the substrate, and this inherently includes some inspection for possible damage. JP404113663A describes well known combination of a laser and a transfer molding machine. Oh describes well known automolding. Tanimoto describe use of a laser for detecting surface irregularities. Folzt

Art Unit: 1725

et al describe (column 9, lines 32-38) well known laser beam ablation apparatus comprising laser beam cooling.

The use of the laser in an automold system would have been obvious at the time applicant's invention was made to a person having ordinary skill in the art because the automold system provides closely associated tooling for rapid production. Nd:Yag lasers are well known as disclosed in AAPA. Apparatus cooling would have been obvious at the time applicant's invention was made to a person having ordinary skill in the art in order to provide a better regulated operation of the apparatus. Note, the intended use of the apparatus does not impart patentability to the apparatus claims.

Claims 16-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art (AAPA) in view of JP404113663A in view of USPN 5,352,107 to Oh in view of USPN 4,586,822 to Tanimoto in view of USPN 5,460,284 to Foltz et al as applied to claims 1-15 above, and further in view of USPN 6,618,402 to Charbonnier et al. Charbonnier et al describe (column 5, lines 35-41) use of a split beam for ablation of resist. The use thereof would have been obvious at the time applicant's invention was made to a person having ordinary skill in the art in order to speed production.

Response to Arguments

Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by

combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, one of ordinary skill in the art would have motivation to automate the existing automold apparatus for improved production.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Del Mar et al pertains to a cooled laser system.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Samuel M. Heinrich whose telephone number is 571-272-1175. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, J. Johnson can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Samuel M. Heinrich
Primary Examiner
Art Unit 1725

SMH